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## Sign & Post Installation – Standard Specifications and Standard Drawings

February 2023 Edition

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## **CP4000.00 Supply and Install New Traffic Signs and Posts**

The unit price identified in the schedule of unit prices shall be full compensation for all labour, equipment, and material necessary to supply and install new traffic signs and posts as shown on the contract drawings.

All signs shall be supplied in accordance with the Ontario Traffic Manuals & CP4000.00. Posts shall be heavy duty, galvanized U-channel posts, except when placed in asphalt or concrete, where posts shall be Unistrut Telepar galvanized posts with sleeve.

U-Channel posts are to be direct driven into the ground. Dug hole with backfill material will not be accepted. Before the installation of Unistrut Telepar posts in concrete or asphalt, the City's Traffic Department shall be notified to meet contractor on site, to ensure the proper installation process is adhered to.

City of Peterborough, Engineering and Construction Inspectors, are to ensure that all sign posts meet required specifications before installation. **Proceeding without prior approval by the Contract Administrator**, may result in non-payment of the associated item(s) and possible additional set-off amount as determined by the Contract Administrator.

All signs and posts shall be installed in accordance with City of Peterborough Standard Specifications and Drawings. The typical location of posts in boulevards shall be 1.0 m behind the curb and the sign shall be installed at a minimum height of 2.1 m to the bottom of the sign.

All U-Channels and Wooden Posts must be installed as a single uniform post with 6" x 6" posts drilled to ensure breakaway as per OPSD 985.110.

### **Post/Pole and Hardware Specifications:**

#### **1. 6" x 6" (150 mm x 150 mm) Wooden Pressure Treated Post**

- Width (5 ½" ) or (150 mm)
- Thickness (5 ½") or (150 mm)
- Length varies

#### **2. 4" x 4" (100 mm x 100 mm) Wooden Pressure Treated Post**

- Width (3 ½") or (100 mm)
- Thickness (3 ½") or (100 mm)
- Length varies

#### **3. Unistrut Telepar Galvanized Posts**

- Galvanized Steel
- 4 sided perforated
- 14 Gauges
- Main Post 1 ¾" x 1 ¾" (Cut to length)
- Anchor Post 2" x 2" x 3'

#### 4. U-Channel Post

- U-Channel 'flanged' rolled and formed
- Hot dip galvanized per ASTM 123
- Minimum yield strength 80,000 psi
- Minimum tensile strength 117,000 psi
- Minimum weight 2.47 lbs/ft
- Holes punched 50 mm on centre
- Tapered drive point

#### 5. Mounting Hardware Kit for Steel Posts

- All Hardware to be minimum Grade 5
- 2 –  $\frac{3}{8}$ " x 16 x 2" –Galvanized Steel bolts
- 2 –  $\frac{3}{8}$ " Galvanized Steel washers
- 2 –  $\frac{3}{8}$ " Galvanized Steel lock washers
- 2 –  $\frac{3}{8}$ " x 1" Nylon washers
- 2 – 1" x  $\frac{3}{4}$ " Cast aluminium Post Filler Block
- 2 –  $\frac{3}{8}$ "-16 Galvanized Steel Hex Nuts

#### 6. Banding Materials for Poles

- $\frac{1}{2}$ " x 0.030 Stainless Steel Banding/Strapping. 1425 lbs. Tensile Strength.
- $\frac{1}{2}$ " Stainless Steel Banding Buckles.
- Flared Leg Stainless Steel Bracket

#### 7. Additional Hardware for Street Name Signs

- Criss-Cross for Two  $\frac{1}{4}$ " Extruded Signs (4)-Set Screw 5/16" – 18- $\frac{1}{2}$ "
- Post Cap  $\frac{1}{8}$ " Flat Sign 2  $\frac{3}{8}$ " O.D. (6)-Set Screw 5/16" – 18- $\frac{1}{2}$ "
- Circular Support Post Cap Adapter 2  $\frac{1}{4}$ " O.D.

#### Sign Specifications:

Signs are to be manufactured in accordance with MUTCD and OTM Standards. **All signs** are to be manufactured using **3M High Intensity Grade Reflective Sheeting**; with the following exceptions:

- All "Parking" related signs are to be manufactured using 3M Engineering Grade Prismatic Reflective Sheeting.
- All School Crossing and School Area signs (Wc-1, Wc-2, Wc-2t, Wc-2A and Wc-2At) which are to be manufactured using 3M Diamond Grade Yellow/Green Reflective sheeting.
- Street Name Signs are to be manufactured as detailed in CP4000.00 below, and oversized Street Name Signs are to be manufactured as per CP4000.02.

Traffic Signs to be 16-gauge galvanized steel unless specified under Special Provisions of the contract documents.

**Street Name Sign blades** shall be 6 ¼" high in a dog bone shaped profile, constructed of 0.125 extruded aluminum with Engineering Grade Sheeting 3290 Reflective White lettering on 3437 3M Prismatic Green background, 4" upper/lower case CG Triumvirate Bold. No border or holes are required. Each sign will be double sided and have the corresponding Ave., St., Blvd., etc. as per Table 1 below:

**Table 1: Street Name Abbreviations**

| Full Street Name | Abbreviation | Comments   |
|------------------|--------------|--|
| Avenue           | Ave          |  |
| Boulevard        | Blvd         |  |
| Circle           | Cir          |  |
| Close            | Close        |  |
| Court            | Crt          |  |
| Crescent         | Cres         |  |
| Drive            | Dr           |  |
| Gardens          | Gdns         |  |
| Gate             | Gate         |  |
| Grove            | Grove        |  |
| Heights          | Hts          |  |
| Highway          | Hwy          |  |
| Lane             | Lane         |  |
| Lee              | Lee          |  |
| Line             | Line         |  |
| Parkway          | Pkwy         | as in North Monaghan Pkwy – not to be used for "The Parkway" |
| Place            | Pl           |  |
| Ridge            | Ridge        |  |
| Road             | Rd           |  |
| Street           | St           |  |
| Terrace          | Terr         |  |
| Trail            | Trail        |  |
| Vista            | Vista        |  |
| Way              | Way          |  |

Non-standard signs shall be detailed under Special Provisions of the contract documents.

**Reference:**

- IPSTR 5000.01 - Typical Sign Installation/Location Detail for Hazard Marker/Keep Right Signs
- IPSTR 5000.02 - Typical Bicycle Lane Detail
- IPSTR 5000.03 - Typical Parking Signage Installation/Location Detail
- IPSTR 5000.04 - Typical School Crossing Signs in Vicinity of Sidewalks Location/Installation Detail
- IPSTR 5000.05 - Typical School Crossing Ahead and School Area Installation/Location Detail

- IPSTR 5000.06 - Typical Sign Installation/Location Detail
- IPSTR 5000.07 - Typical Regulatory and Street Name Signs Installation/Location Detail
- IPSTR 5000.08 - Typical (100 mm x 100 mm) Pressure Treated Post Installation/Location Detail
- IPSTR 5000.09 - Typical Oversized Street Name Sign Mounting Detail
- IPSTR 5000.10 - Typical Sign Installation/Location Detail for Traffic Signal Ahead & 'NEW' Sign for Signal Control
- IPSTR 5000.11 - Typical "911" Address Sign Installation/Location Detail
- IPSTR 5000.12 - Typical Reflective Delineator Sign Installation/Location Detail
- IPSTR 5000.13 - Transit Sign Installation/Location Detail

### **CP4000.01 Remove and Salvage Existing Traffic Signs and Posts**

The unit price identified in the schedule of unit prices shall be full compensation for all labour and equipment to remove and salvage all traffic signs, posts and hardware as shown on the contract drawings.

All signs, posts and hardware removed to be delivered to 791 Webber Ave. on the same day as removal. Materials are to be removed in a manner in which no damage will occur during the removal process.

Any traffic signs that are to be removed that could pose a safety hazard to the public (i.e., Warning and Regulatory Signs) must be replaced with a temporary signs for the duration of the project. The Contractor is responsible to maintain these signs until permanent signs are installed.

## CP4000.02 Supply and Install Oversized Street Name Signs

The unit price identified in the schedule of unit prices shall be full compensation to supply and install oversized street name signs as shown on the Contract Drawings in accordance with IPSTR-5000.09. Unit price bid shall include but not limited to all brackets, hangers and fasteners necessary to install signs on overhead traffic signal arms.

Mounting hardware shall be the Sentinel Versa-Brac Sign Assembly. The extrusion is to be 1.2 m (Part #VSMB-C-48) to 1.8 m long (Part #VSMB-C-72) depending on the length of the sign. Signs greater than 2.1 m in length require a 1.8 m extrusion.

The sign blade shall be single sided and 16" high constructed of 0.125 aluminum with Engineering Grade Sheeting 3290 Reflective White lettering on 3437 3M Prismatic Green background, 10" upper/lower case CG Triumvirate Bold with 5" lettering for street abbreviation. No border or holes are required.

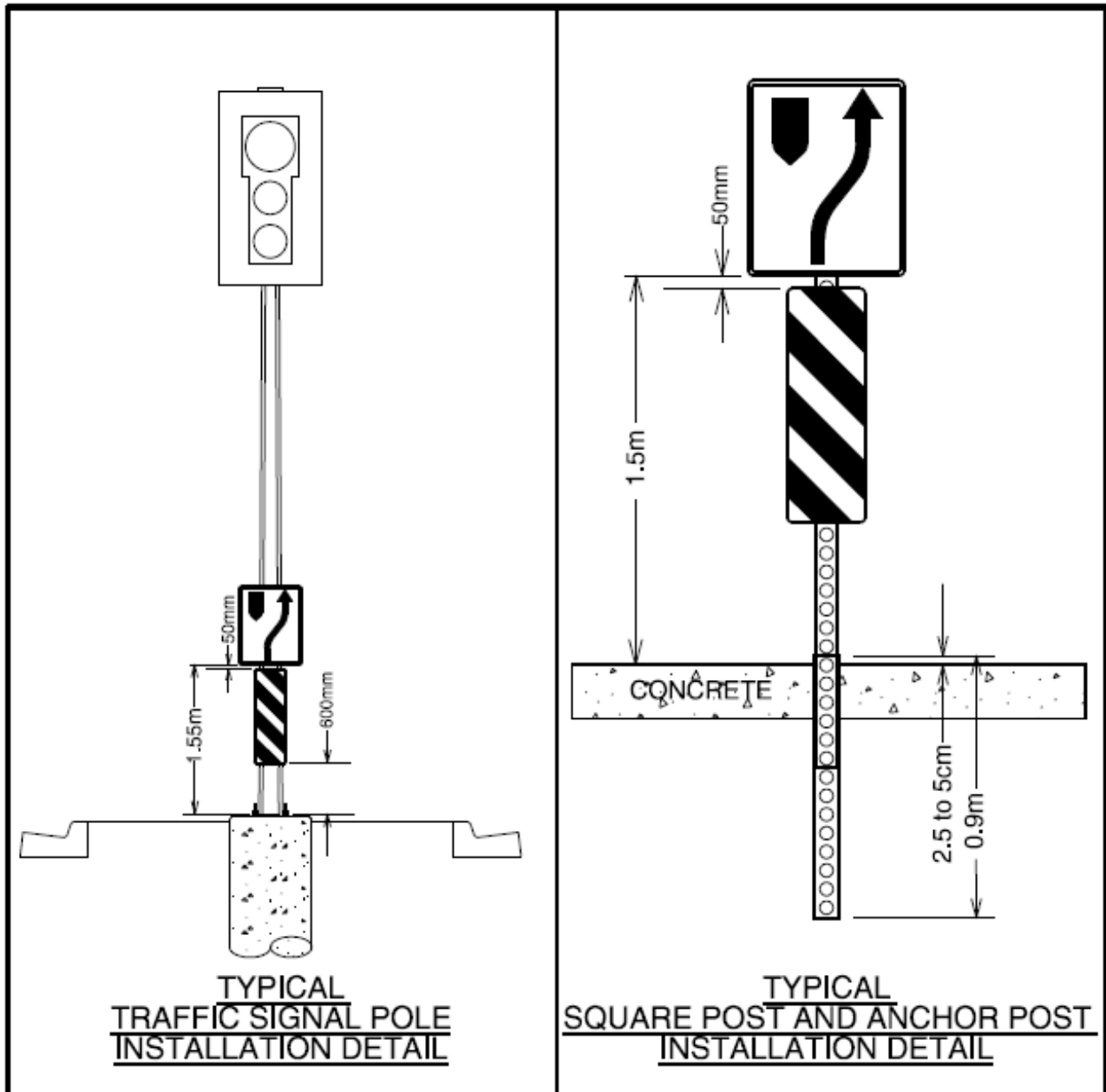
Examples:



### Reference:

- IPSTR-5000.09 - Typical Oversized Street Name Sign Mounting Detail



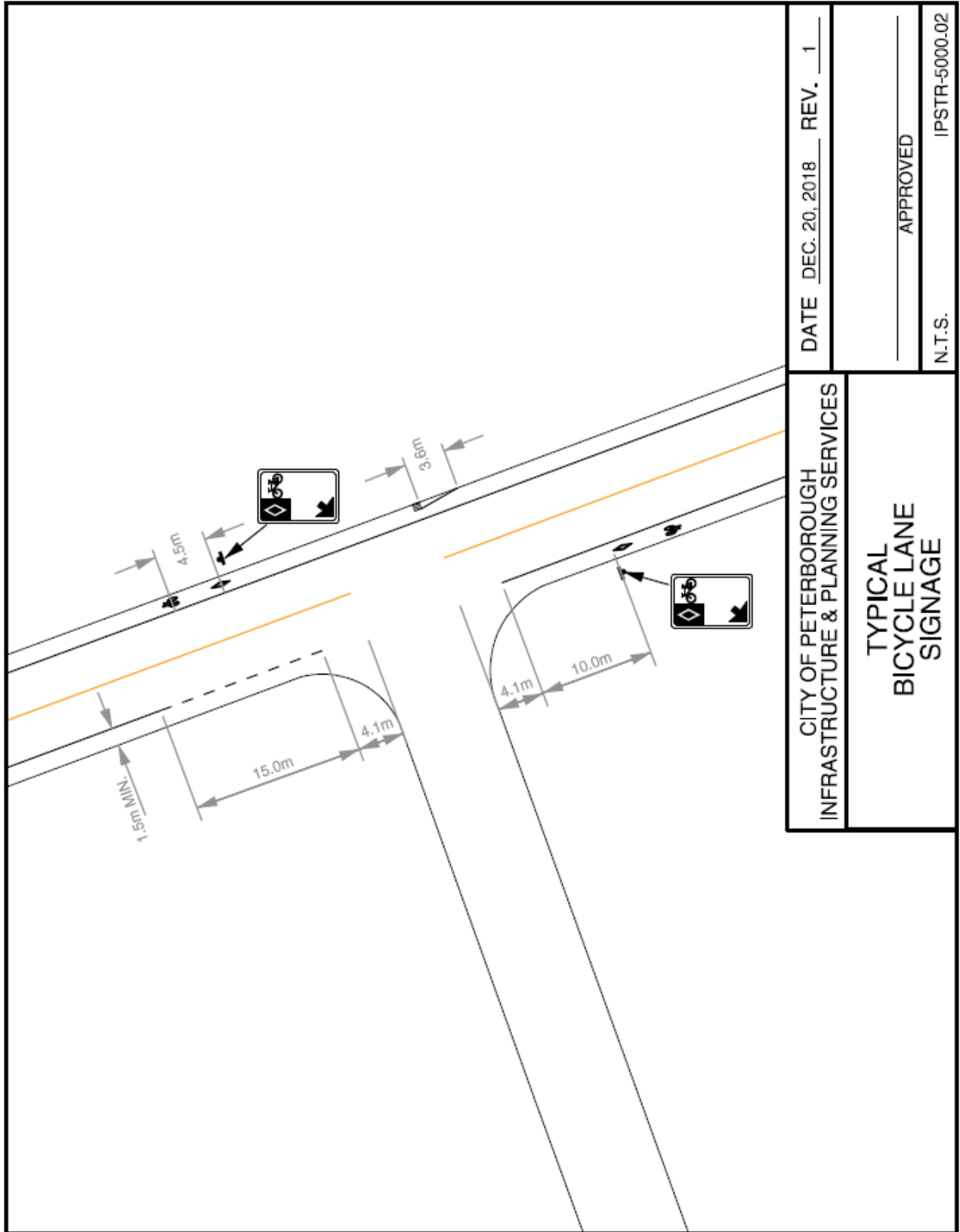


SQUARE POST TO BE INSTALLED 1.5m FROM BULLNOSE AND CENTERED ON ISLAND



TYPICAL SETBACK FOR A TRAFFIC SIGNAL POLE ON AN ISLAND IS 3.0m  
 SIGNS TO BE BANDED ON TRAFFIC SIGNAL POLE  
 TRAFFIC SIGNAL POLE TO BE USED IF PRESENT

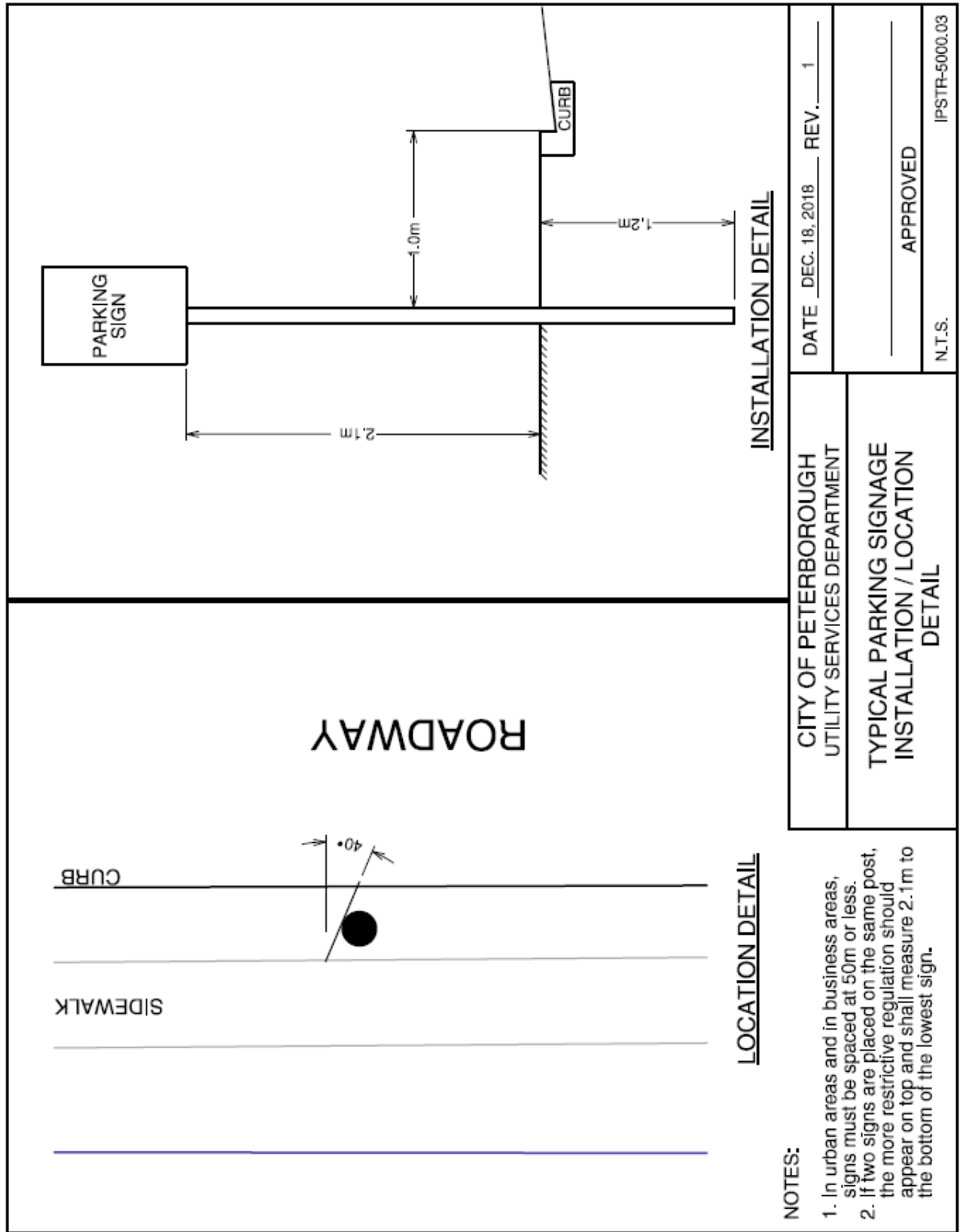
|  |   |   |
|--|---|---|
| NOTES:<br>1. Post shall be trimmed to top of sign. | CITY OF PETERBOROUGH<br>INFRASTRUCTURE & PLANNING SERVICES                                | DATE <u>DEC. 20, 2018</u> REV. <u>1</u> |
|  | TYPICAL SIGN<br>INSTALLATION / LOCATION<br>DETAIL FOR HAZARD MARKER<br>& KEEP RIGHT SIGNS | _____<br>APPROVED<br>N.T.S.             |



|          |               |               |   |
|----------|---------------|---------------|---|
| DATE     | DEC. 20, 2018 | REV.          | 1 |
| APPROVED |               |               |   |
| N.T.S.   |               | IPSTR-5000.02 |   |

CITY OF PETERBOROUGH  
 INFRASTRUCTURE & PLANNING SERVICES

**TYPICAL  
 BICYCLE LANE  
 SIGNAGE**



**NOTES:**

1. In urban areas and in business areas, signs must be spaced at 50m or less.
2. If two signs are placed on the same post, the more restrictive regulation should appear on top and shall measure 2.1m to the bottom of the lowest sign.

CITY OF PETERBOROUGH  
UTILITY SERVICES DEPARTMENT

TYPICAL PARKING SIGNAGE  
INSTALLATION / LOCATION  
DETAIL

DATE DEC. 18, 2018 REV. 1

APPROVED

N.T.S.

IPSTR-5000.03

**INSTALLATION DETAIL**

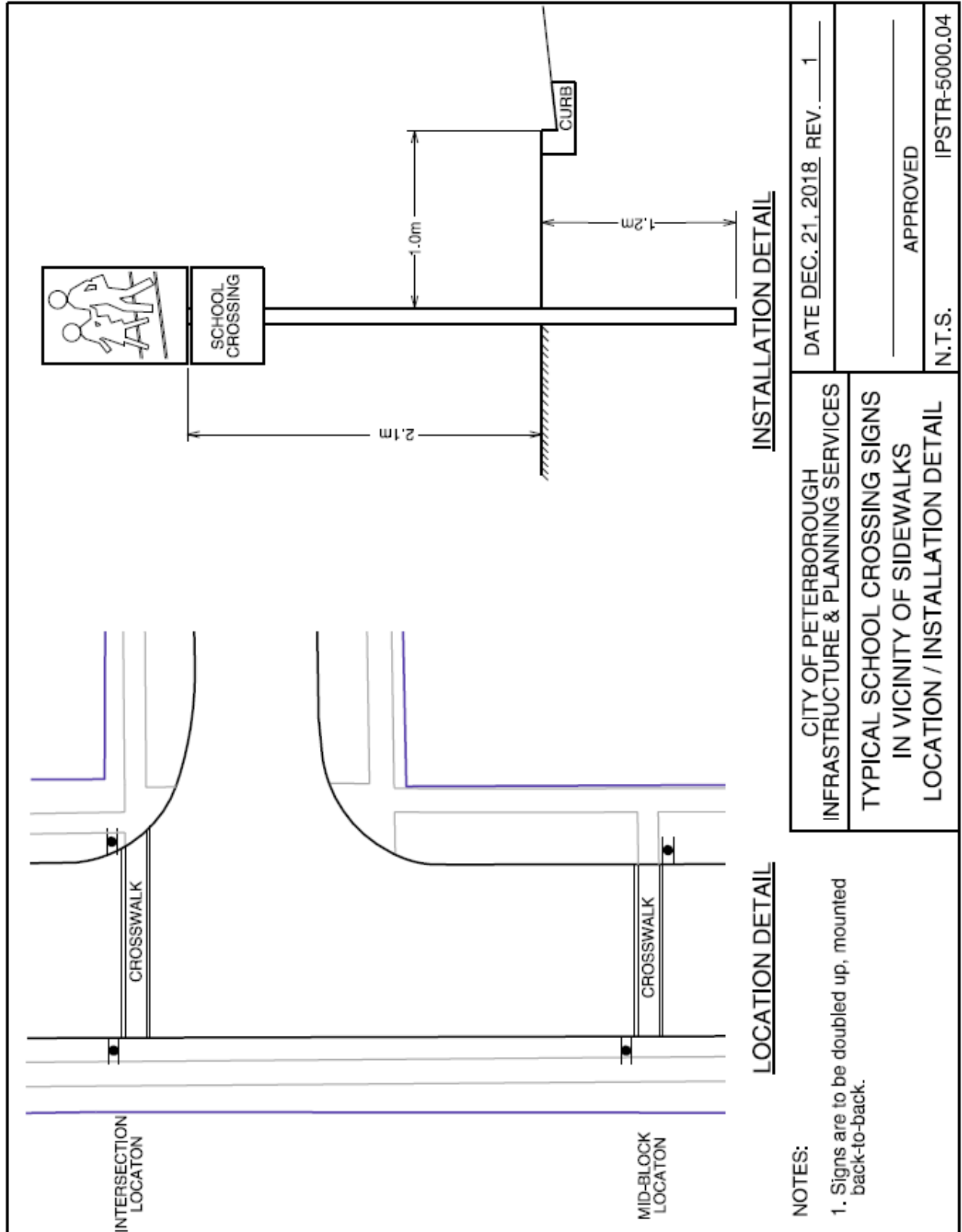
**ROADWAY**

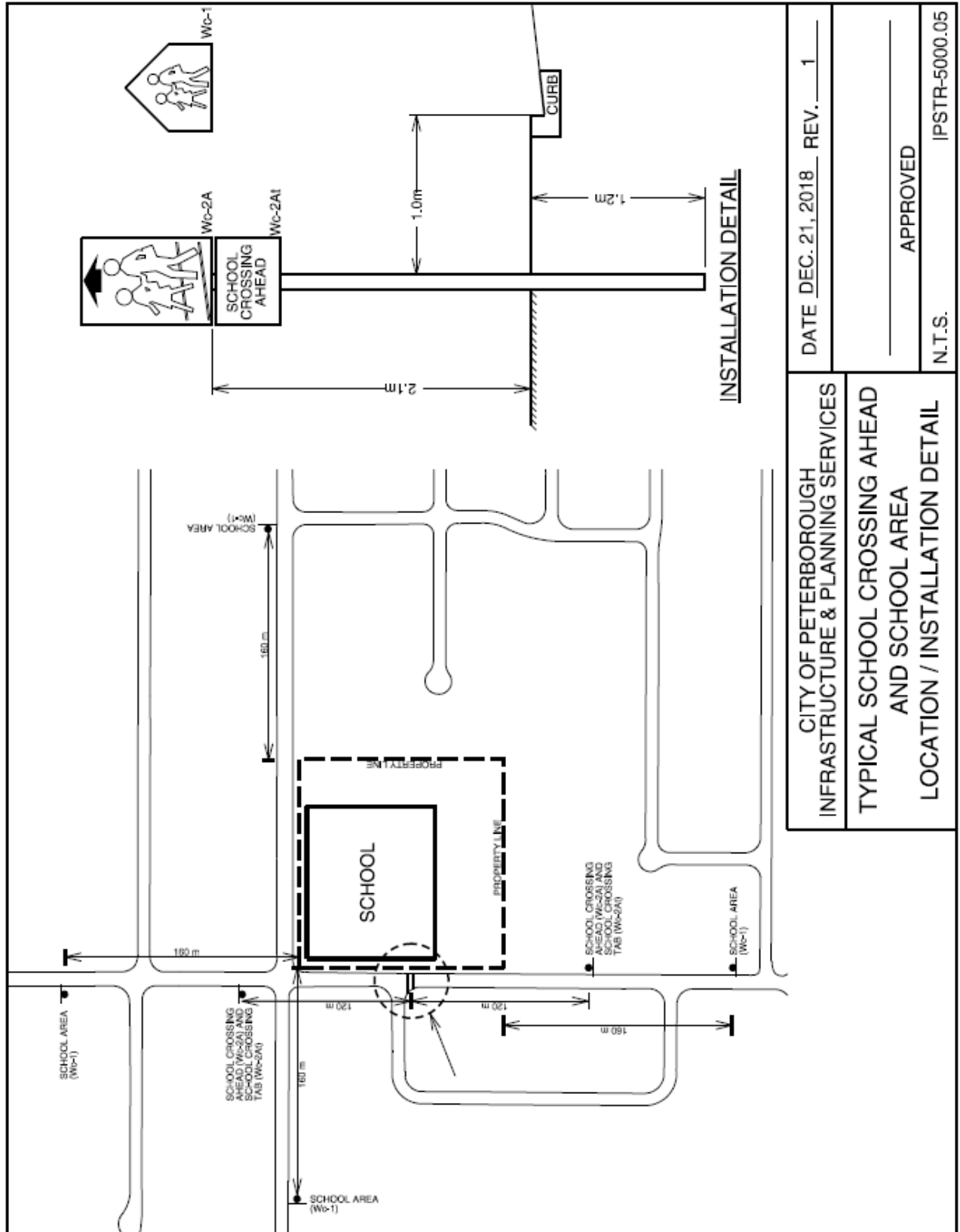
CURB

SIDEWALK

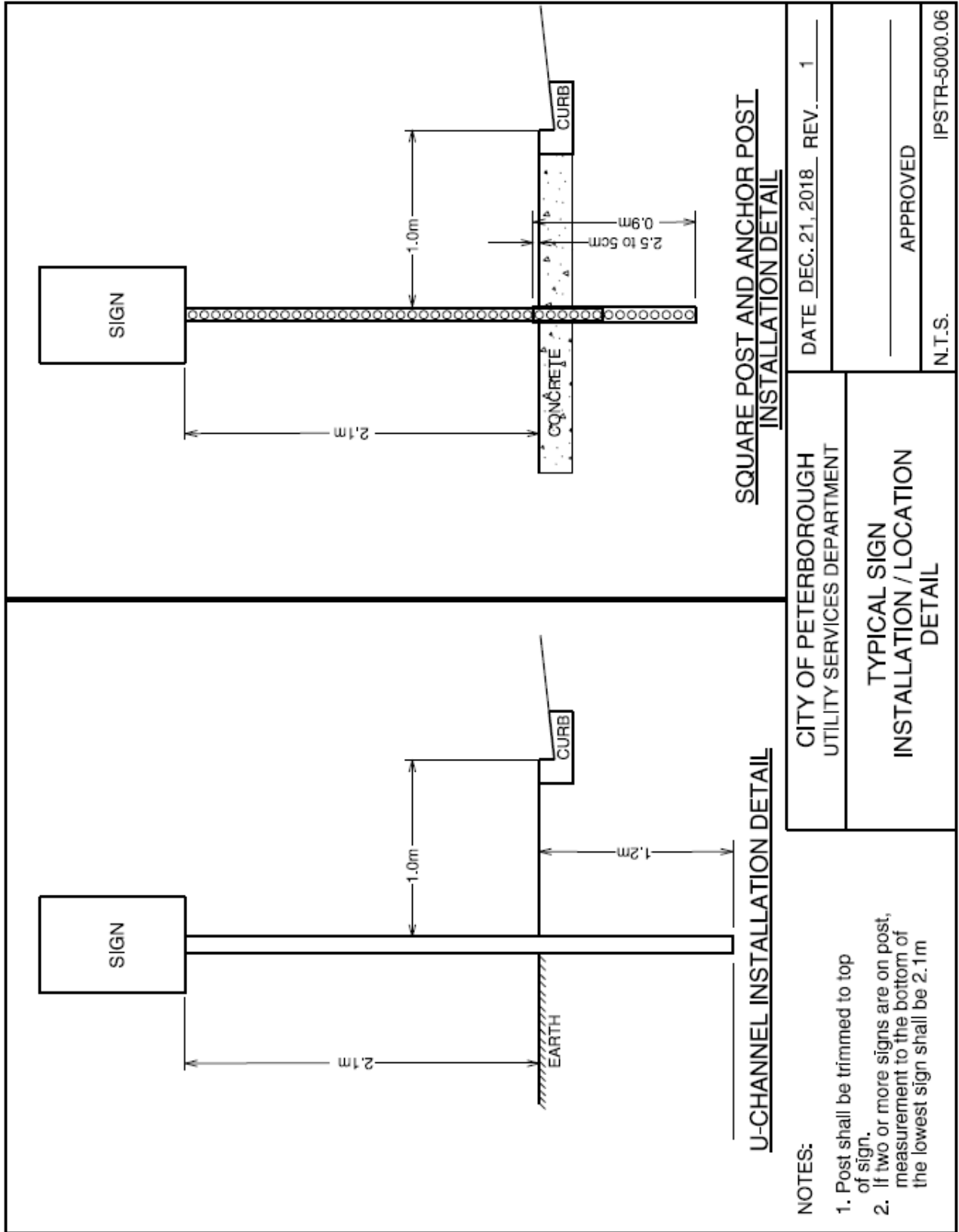
PARKING  
SIGN

CURB

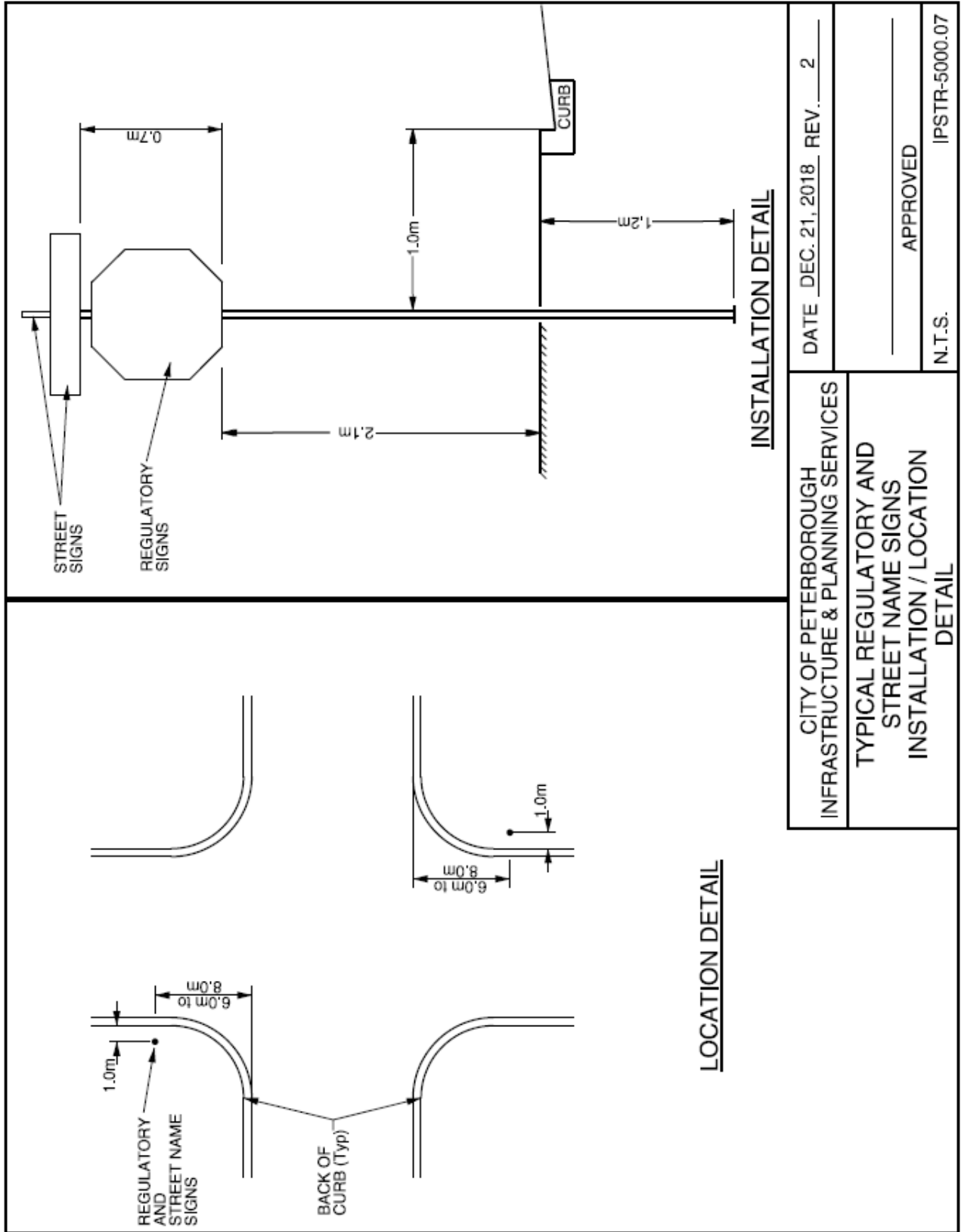




|  |  |                           |
|--|--|---------------------------|
| CITY OF PETERBOROUGH<br>INFRASTRUCTURE & PLANNING SERVICES |  | DATE DEC. 21, 2018 REV. 1 |
| TYPICAL SCHOOL CROSSING AHEAD<br>AND SCHOOL AREA           |  | APPROVED                  |
| LOCATION / INSTALLATION DETAIL                             |  | N.T.S.  PSTR-5000.05      |



IPSTR-5000.06



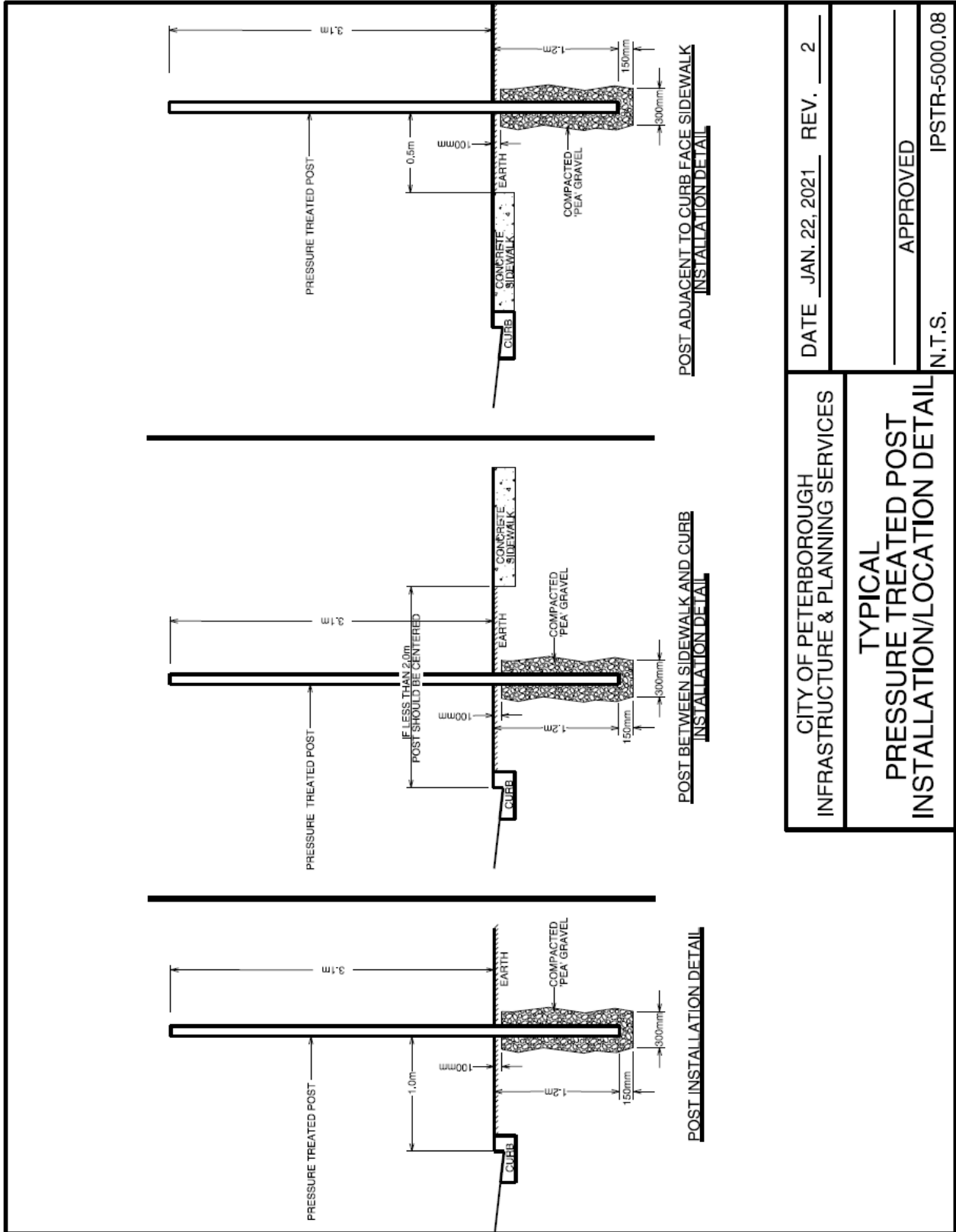
CITY OF PETERBOROUGH  
INFRASTRUCTURE & PLANNING SERVICES

DATE DEC. 21, 2018 REV. 2

TYPICAL REGULATORY AND  
STREET NAME SIGNS  
INSTALLATION / LOCATION  
DETAIL

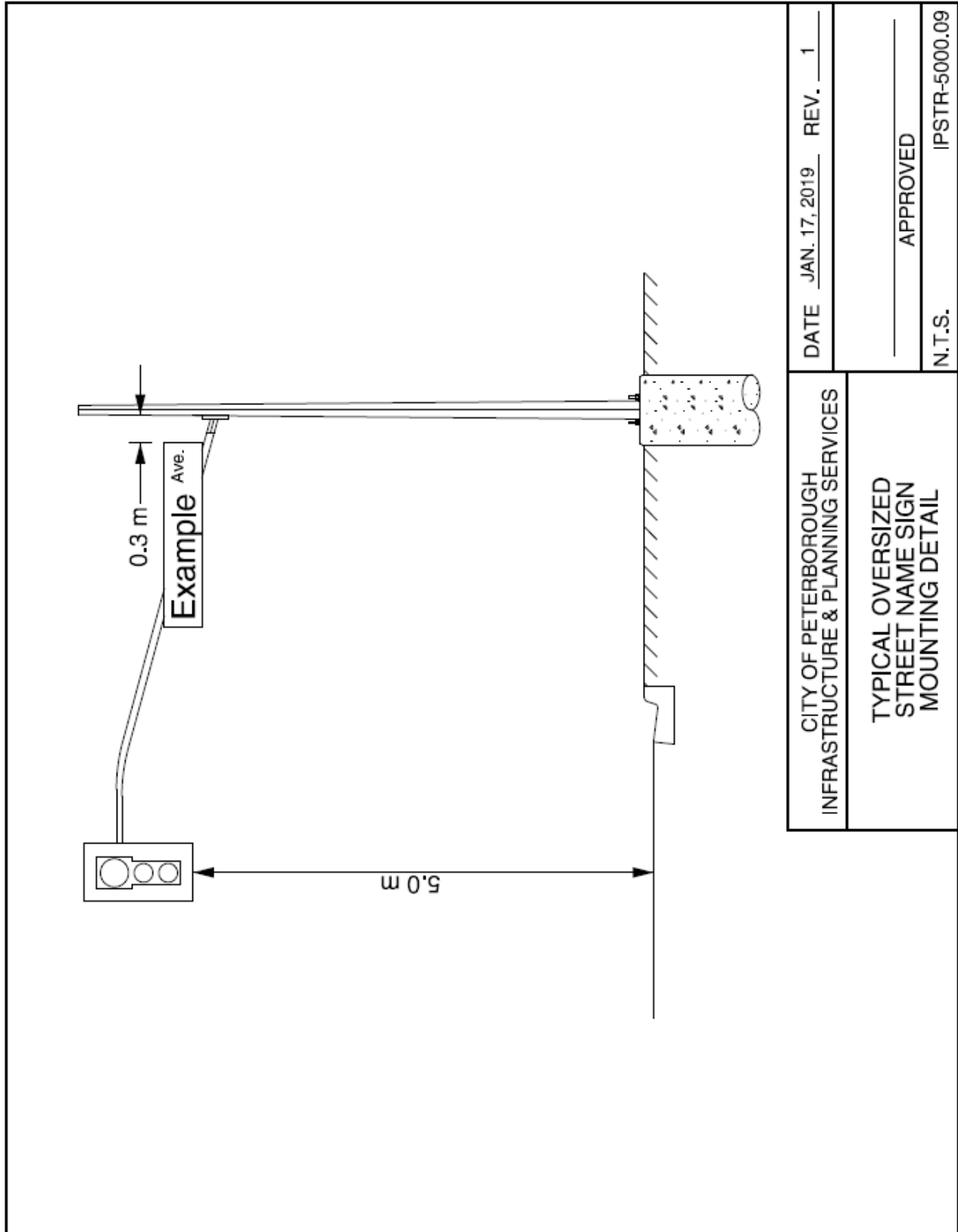
APPROVED

N.T.S. IPSTR-5000.07

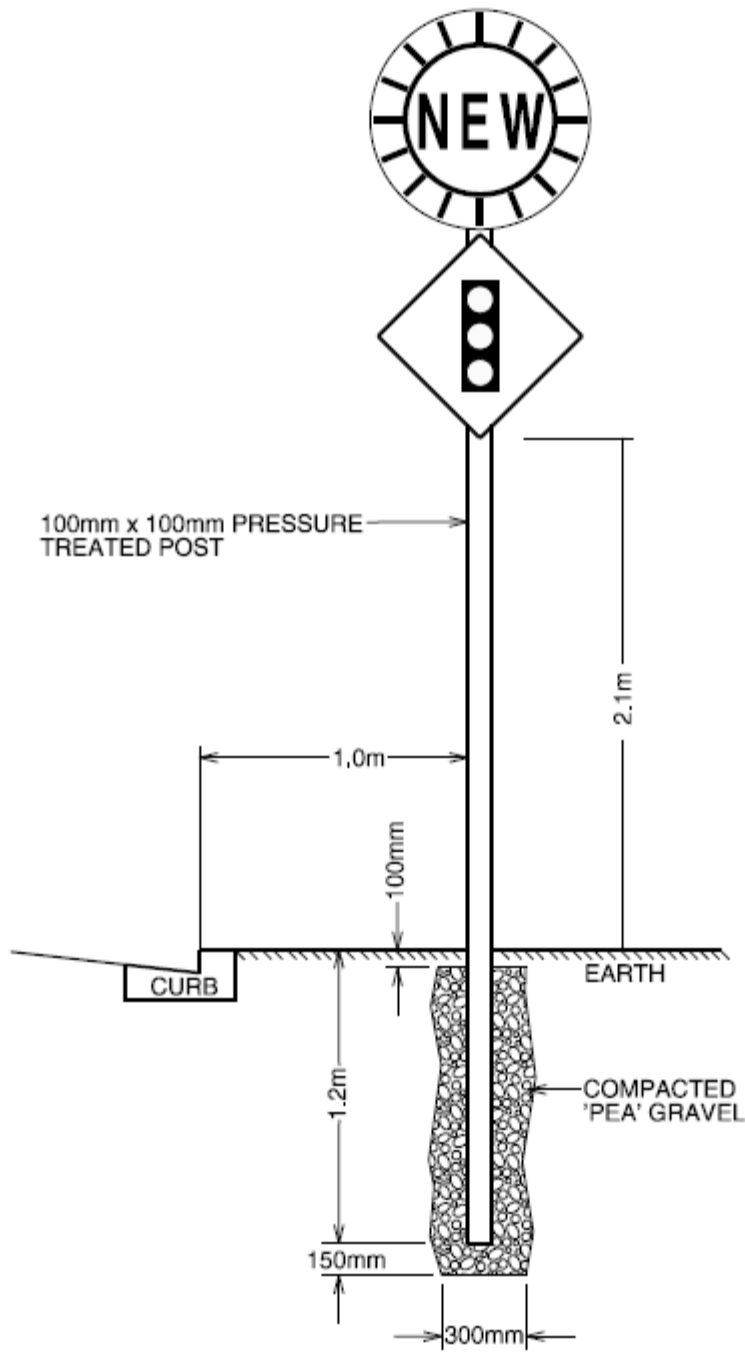


|  |                           |
|--|---------------------------|
| CITY OF PETERBOROUGH<br>INFRASTRUCTURE & PLANNING SERVICES       | DATE JAN. 22, 2021 REV. 2 |
|  | APPROVED                  |
| TYPICAL<br>PRESSURE TREATED POST<br>INSTALLATION/LOCATION DETAIL |                           |
| N.T.S. IPSTR-5000.08   |                           |





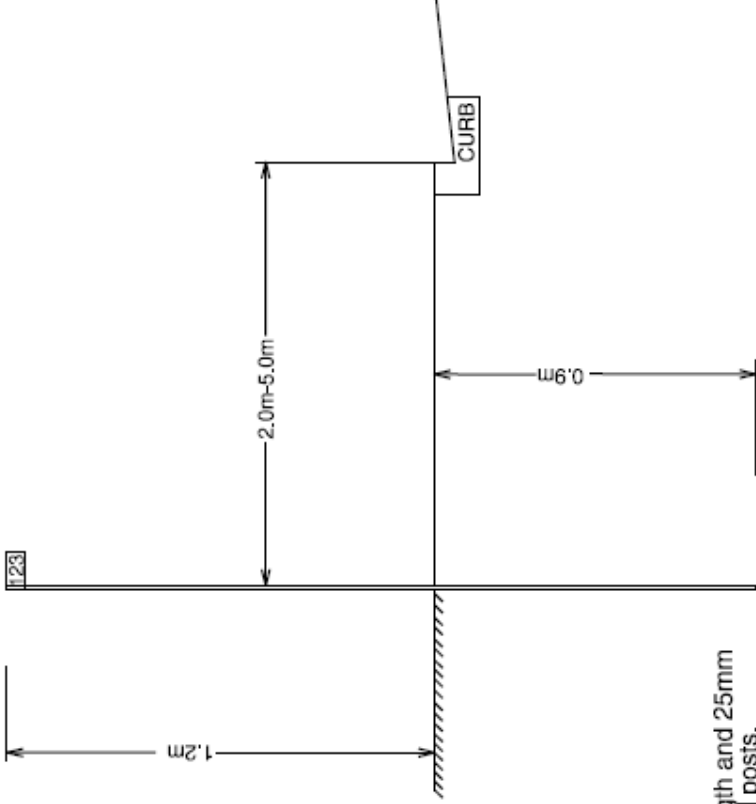


|  |                           |
|--|---------------------------|
| CITY OF PETERBOROUGH<br>INFRASTRUCTURE & PLANNING SERVICES | DATE JAN. 17, 2019 REV. 1 |
| TYPICAL OVERSIZED<br>STREET NAME SIGN<br>MOUNTING DETAIL   |                           |
| N.T.S. IPSTR-5000.09                                       |                           |



**POST INSTALLATION DETAIL**

|   |   |  |
|---|---|--|
| <p>NOTES:</p> <p>1. Post shall be trimmed to top of sign.</p> | <p>CITY OF PETERBOROUGH<br/>INFRASTRUCTURE &amp; PLANNING SERVICES</p>  | <p>DATE <u>JAN. 17, 2019</u> REV. <u>1</u></p> |
|   | <p>TYPICAL SIGN<br/>INSTALLATION/LOCATION DETAIL<br/>FOR TRAFFIC SIGNAL AHEAD<br/>&amp; NEW SIGN for SIGNAL CONTROL</p> | <p>APPROVED</p>                                |
|   | <p>N.T.S.</p>   | <p>IPSTR 5000.10</p>                           |

|  |   |   |  |
|--|---|---|--|
|  <p>125mm</p> <p>123</p> <p>250mm</p>   |  <p>125mm</p> <p>1234</p> <p>300mm</p> | <p>NOTES:</p> <ol style="list-style-type: none"> <li>1. Signs with 1, 2, &amp; 3 digit numbers are to be 125mm x 250mm.</li> <li>2. Signs with 4 &amp; 5 digit numbers are to be 125mm x 300mm.</li> <li>3. Signs are 16 gauge thick aluminum with green reflective coating and 100mm white reflective numbers.<br/>(ASTM Type 1 - Engineer Grade Prismatic)</li> </ol> | <p>DATE JAN. 17, 2019 REV. 1</p> <p>APPROVED</p> <p>N.T.S. IPSTR 5000.11</p> |
|  <p>1.2m</p> <p>2.0m-5.0m</p> <p>0.9m</p> <p>CURB</p>   |   | <p>CITY OF PETERBOROUGH<br/>INFRASTRUCTURE &amp; PLANNING SERVICES</p> <p>TYPICAL "911" ADDRESS SIGN<br/>INSTALLATION / LOCATION<br/>DETAIL</p>   |  |
| <p>NOTES:</p> <ol style="list-style-type: none"> <li>1. Sign post is 2.1m in length and 25mm square, galvanized steel posts.</li> <li>2. Sign post has predrilled holes to match holes in sign blade.</li> <li>3. Mounting Hardware Kit<br/>(All Hardware to be minimum Grade 5)<br/>2 - 5/16" x 16x2" Stainless Steel bolts<br/>2 - 5/16" Stainless Steel washers<br/>2 - 5/16" Stainless Steel lock washers<br/>2 - 5/16" x 1" Nylon washers<br/>2 - 5/16" x 16 Stainless Steel Hex Nuts</li> <li>4. Location of Post<br/>2.0m - 5.0m from curb face or edge of pavement.<br/>1.0m - 2.0m from left edge of driveway.</li> </ol> |   |   |  |

|  |   |
|--|---|
| <p>Diagram showing a sign post and sign. The sign post is 2.1m high and 25mm square. The sign is 1.0m high and 1.5m wide. The sign is mounted on the post. The sign is 127mm x 127mm. The sign is 16 gauge thick aluminum with High Intensity white silver reflective coating. The sign is mounted on the post with 2 - 5/16" x 16x2" Stainless Steel bolts, 2 - 5/16" Stainless Steel washers, 2 - 5/16" Stainless Steel lock washers, 2 - 5/16" x 1" Nylon washers, and 2 - 5/16" x 16 Stainless Steel Hex Nuts. The sign is 1.0m from the curb face or 2.0m from the painted edge line.</p> | <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1. Sign post is 2.1m in length and 25mm square, galvanized steel.</li> <li>2. Sign post has predrilled holes to match holes in sign blade.</li> <li>3. Mounting Hardware Kit<br/>(All Hardware to be minimum Grade 5)<br/>2 - 5/16" x 16x2" Stainless Steel bolts<br/>2 - 5/16" Stainless Steel washers<br/>2 - 5/16" Stainless Steel lock washers<br/>2 - 5/16" x 1" Nylon washers<br/>2 - 5/16" x 16 Stainless Steel Hex Nuts</li> <li>4. Location of Post<br/>1.0m from curb face or<br/>2.0m from painted edge line.</li> </ol> |
| <p>Diagram of a square sign with dimensions 127mm x 127mm.</p>   | <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1. Signs are to be 127mm x 127mm.</li> <li>2. Signs are 16 gauge thick aluminum with High Intensity white silver reflective coating.</li> </ol>   |
| <p>CITY OF PETERBOROUGH<br/>INFRASTRUCTURE &amp; PLANNING SERVICES</p> <p>TYPICAL REFLECTIVE DELINEATOR SIGN<br/>INSTALLATION / LOCATION<br/>DETAIL</p>  |   |
| <p>DATE JAN. 17, 2019 REV. 1</p> <p>APPROVED</p> <p>N.T.S. IPSTR 5000.12</p>   |   |

